spots became more widely extended in latitude, owing to the occurrence of outbreaks in high latitudes. Thus at minimum each hemisphere, considered separately, showed two clearly defined spot-zones marked off from each other by a broad belt in which there were no spots at all. Of these two spot-zones in each hemisphere, the lower appears to correspond to the series of spots of the expiring cycle. During the periods of increase the equatorial belt was almost wholly free from spots, indicating possibly the complete disappearance of the last members of the old cycle. At maximum, however, the spots of the new cycle were most widely spread, and were even seen in the near neighbourhood of the equator . . . ."

Finally, I wish to tender you my sincere congratulations on your original interpretation of the long-period variation, and to express the hope that my little remarks may contribute to enhance its evident plausibility.

It goes without saying, that you may dispose of these remarks at your own pleasure.—I am, very faithfully yours,

J. Stein, S.J.

Measures of Southern Double Stars in 1907. By James L. Scott.

The following measures of southern double stars were made with the same 5-in. refractor as those in *M.N.*, vol. lxiv. p. 52, bright wire illumination being used throughout. The weather during 1907 was, on the whole, distinctly poor, cloudy nights and bad definition being the rule rather than the exception; the number of stars measured was therefore smaller than usual.

Star's Name.	R.A. h m	S. Dec. ′	P.A. °	Distance. ″	Mags.		Nights.	Date. 1907.
Σ 3063	0 2	5 6	218·0	1·85	8½	10	3	·942
O. Stone 51	0 2	14 54	288·6	9·88	9	9	2	·942
β 391 (κ_1 Sculptoris)	0 3	28 32	270·8	1·15	6½	6½	3	·928
h 3375	0 29	35 32	166·3	6·05	6½	9	2	·868
O. Stone 3	0 47	23 9	267·2	2·10	8¾	9½	3	·953
h 3407	0 48	25 31	127·3	13·20	7	7¼	2	·871
Ll. 1662	0 53	16 13	214·8	6·50	8	8¼	2	·006
h 2036	1 15	16 20	13·3	1·48	7	7¼	3	·956
τ Sculptoris	1 32	30 25	97·2	1·90	6	7	3	·953
Σ 231 (66 Ceti)	2 08	2 52	232·0	16·05	5¾	8¾	2	·956
Hastings I	2 11	18 42	356·1	2·01	8	8½	3	·956
θ Eridani	2 54	40 43	86·1	8·46	3¼	4¾	2	·953
h 3750	5 16	21 20	279·8	3·50	4¾	9½	2	·164
h 3752	5 18	24 52	102·7	3·25	5½	7½	2	·164

Star's Name.	R.A. h m	S. Dec. ° ′	P.A. °	Distance. ″	Mags.		Nights.	Date. 1907.
Argelander (I)	6 02	25 1	295·0	4·74	8¼	8½	2	·205
h 3858	6 22	34 59	316·6	3·75	7½	8½	2	·205
h 3938	7 9	22 42	249·2	19·50	7½	8½	2	·205
Σ 1104	7 24	14 47	333·6	2·30	7	9	2	·246
h 3973	7 26	20 40	38·4	8·90	8½	9	2	·249
O. Stone 18	8 5	26 50	261·2	3·32	8½	9	2	·249
Dunlop 63	8 6	42 21	80·9	5·50	7	8	2	·246
γ Argûs (A & B)	8 6	47 3	219·8	41·52	2	6	2	·249
(A & C)	...	...	148·7	62·11	2	8	2	·249
h 4093	8 23	38 43	122·7	8·03	7	7½	2	·260
Howe 23	9 3	31 11	307·2	3·30	8¼	9	2	·260
h 4193	9 12	22 42	118·8	3·05	8	10	2	·249
H. C. Wilson	9 16	23 3	36·9	1·30	7¾	9¾	3	·249
ζ_1 Antliæ	9 26	31 27	210·2	8·20	5¾	6½	2	·260
h 4224	9 32	30 47	117·3	7·00	8	9	2	·249
C. G. C. 13,722	9 58	17 30	274·0	20·02	6½	7¼	1	·260
Howe 15	10 58	26 58	338·2	2·10	7·5	9·3	2	·271
17 Crateris	11 27	28 43	209·3	8·88	5½	5½	2	·378
h 4455	11 32	33 1	244·0	3·80	6¼	9¼	2	·378
C. G. C. 15,942	11 35	37 30	95·8	16·50	7	9	1	·397
h 4481	11 52	21 59	197·1	3·30	8	8	2	·378
h 4495	12 0	32 23	316·8	6·60	6½	9	2	·378
C. G. C. 16,612	12 4	34 6	202·5	3·75	6½	9	2	·378
Jacob 8	12 5	34 9	20·3	3·10	6½	9	2	·394
S 634	12 6	16 14	285·5	6·67	7	9	2	·378
D Centauri	12 9	45 10	242·4	3·08	5½	7	2	·394
h 4518	12 19	40 50	207·6	10·10	6¾	9	2	·446
δ Corvi	12 25	15 58	214·3	24·45	3	8½	1	·430
Σ 1669	12 36	12 28	306·0	5·70	6½	6½	2	·446
γ Virginis	12 37	0 54	326·8	6·01	3	3	3	·430
h 4556	12 49	27 25	80·0	6·50	7	8½	2	·397
O. Stone 27	12 52	12 36	66·9	1·95	8½	8¾	2	·446
h 4563	12 55	33 5	236·0	6·82	7½	8¼	1	·430
h 4587	13 20	42 32	86·3	5·20	8	8½	2	·446
Ö. A. 12,867	13 21	22 43	356·2	1·61	8·8	9	2	·446
β 114	13 29	8 6	143·0	1·50	8	8	2	·446
h 4608	13 36	33 28	177·5	4·60	8	8¼	1	·430
h 4617	13 45	29 23	260·8	5·05	7½	9½	2	·446
β 343	13 46	31 7	118·0	1·03	6	7	3	·446
κ Centauri	13 46	32 30	109·5	8·17	4¾	6	1	·430

Star's Name.	R.A.	S. Dec.	P.A.	Distance.	Mags.		Nights.	Date.
	h m	° ′	°	″				1907.
Howe 26	13 49	31 37	115·9	6·40	7½	10	2	·485
h 4661	14 6	38 35	230·8	4·48	9	9	2	·482
Σ 1837	14 19	11 13	300·4	1·40	7	8·5	2	·482
Howe 29	14 31	37 6	213·4	4·25	8	8½	2	·485
h 4690	14 31	45 42	23·6	19·50	5½	8	1	·501
54 Hydræ	14 40	25 2	130·2	8·71	5¼	7¼	2	·482
β 106 (A & B)	14 44	13 44	341·4	1·60	5½	6½	2	·485
P XIV., 212	14 52	20 57	296·8	17·35	6	7½	2	·482
h 4722	14 53	30 18	340·4	8·65	7½	9	2	·501
β 239	14 53	27 16	316·8	0·90	6	6½	3	·485
h 4727	14 57	27 26	216·7	7·38	8¾	8¾	2	·482
β 119	15 0	6 37	300·4	1·60	8	8½	4	·501
h 4743	15 1	32 32	196·9	11·19	7¼	7¼	2	·485
Howe 31	15 7	36 52	46·8	6·50	7¼	7¼	2	·485
h 4776	15 23	41 34	228·6	5·52	7	8½	2	·501
h 4783	15 25	19 48	280·1	11·05	6¾	8½	2	·498
Howe 37	15 36	14 28	90·7	5·43	8	8	2	·490
η Lupi	15 53	38 7	20·4	15·30	4	8	1	·490
Lal 29,720	16 13	19 49	21·2	13·18	8	8¼	1	·501
σ Scorpi	16 15	25 21	272·7	20·60	3	7½	1	·583
h 4845	16 17	41 01	135·6	2·10	8	8½	2	·548
h 4848	16 17	32 58	153·2	5·90	7	7½	2	·501
h 4850	16 18	29 28	350·8	6·30	6	6½	2	·501
ρ Ophiuchi	16 20	23 13	355·2	3·40	5¼	6¼	2	·501
Skinner	16 39	17 8	86·0	3·50	8½	8½	2	·605
P XVI., 236	16 51	19 23	231·3	4·80	7¼	8½	1	·583
Σ 2119	17 01	13 48	192·2	2·20	8	8	2	·548
36 Ophiuchi	17 9	26 27	187·8	4·18	5¼	5½	2	·548
β 958	17 10	19 14	213·8	1·55	8½	9	3	·548
38 Ophiuchi	17 11	26 31	337·6	5·68	6½	9	2	·548
β 416	17 12	34 53	273·0	2·30	6	8	4	·559
β 126	17 14	17 39	262·5	2·00	6¼	8¼	2	·559
Σ 2204	17 40	13 16	24·3	14·10	7	7·2	1	·583
h 5003	17 53	30 15	104·8	5·25	6	7	2	·605
ν Ophiuchi	17 57	8 11	258·2	1·94	5½	6	3	·559
Howe 50	17 59	36 35	2·6	3·05	7¼	8¼	2	·583
70 Ophiuchi	18 0	2 33N	164·7	2·61	4½	6	4	·559
β 245	18 4	30 45	353·5	4·15	6	8	2	·643
H N 125	18 23	25 6	101·6	3·61	7½	7¾	2	·605
S 715	19 12	16 09	14·6	8·30	7¼	7½	2	·698

Star's Name.	R.A.	S. Dec.	P.A.	Distance.	Mags.		Nights.	Date.
	h m	° ′	°	″				1907.
h 1381	19 12	16 10	195·7	4·95	8·1	8·3	2	·698
β 142	19 22	12 21	342·6	1·60	8	8	3	·698
Ho. 462	20 59	11 29	218·5	2·55	9	9½	3	·832
h 5252	21 7	15 25	318·2	3·02	8	8½	2	·832
C. G. C. 29,658	21 35	18 53	66·0	5·00	8	9·4	2	·846
η Piscis Australis	21 55	28 56	116·3	1·74	6	6½	5	·868
See 470	22 5	24 5	36·8	1·66	8	9	4	·868
S 808	22 19	20 52	151·8	7·00	7	8·3	2	·797
53 Aquarii	22 21	17 15	310·8	6·80	6½	6¾	2	·797
ζ Aquarii	22 24	0 32	315·2	3·05	4·5	4·6	4	·832
H N 117	22 34	28 52	64·3	3·04	7¾	8½	2	·871
γ Piscis Australis	22 47	33 24	266·4	3·56	4½	8¾	2	·871
Σ 3008	23 19	9 1	235·8	3·60	7½	8½	2	·871
ι_2 Aquarii	23 41	19 14	137·8	5·90	5½	7	2	·928
B.A.C. 8308	23 49	27 36	269·3	6·90	6¾	7½	2	·950
Σ 3046	23 51	10 03	252·7	3·18	8¾	9¼	3	·950

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Note on the adopted co-ordinates of the Bombay (Colaba) Observatory. By A. M. W. Downing, D.Sc., F.R.S.

It may be desirable to point out that the relatively large change in the position of the Colaba Observatory, as given in the *Nautical Almanac* for 1909 and following years, from that given in the *Nautical Almanac* for 1896–1908 inclusive, arises from the large difference existing in that part of India between the geodetic and astronomical co-ordinates. I am indebted to the courtesy of the Headquarters Staff of the Trigonometrical Branch of the Survey of India for the following particulars as to the position of the Colaba Observatory:—

	Astronomical.	Geodetic.
Latitude,	18° 53′ 36″·18 N.	18° 53′ 46″·51 N.
Longitude,	$4^h\ 51^m\ 15^s·72$ E.	$4^h\ 51^m\ 15^s·15$ E.

It will thus be seen that the quantities given in the *Nautical Almanac* for 1909 and onwards are the astronomical latitude and the geodetic longitude. On the other hand, up to and including the current year, the quantities given are the geodetic latitude and the astronomical longitude; the values of these co-ordinates given above being later, and presumably more accurate, than those communicated to me in 1892, and which appear in the *Nautical Almanac* for the years specified.